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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,168	11/14/2001	Shao-Kuang Lee	UPA-01220	7358

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EXAMINER

MCLEAN MAYO, KIMBERLY N

ART UNIT	PAPER NUMBER
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2187

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DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/003,168	Applicant(s) LEE ET AL.	
	Examiner Kimberly N. McLean-Mayo	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The enclosed detailed action is in response to the Application submitted on November 14, 2001.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble in claim 4 is incomplete.

4. Claim 4 recites the limitation "the last command" in line 3. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 6 recites the limitation "the total number" and "the value" in lines 5 and 8 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Benkual et al.

(USPN: 6,671,747).

Regarding claim 1, Benkual discloses a command number generator generating a command order number for each command entering the buffer structure [Figure 14, Reference 400; C 9, L 52-56](C 21; L 27-33 -logic which generates the valid bits for each word); a plurality of single input single output buffers each having a capacity of buffering multiple commands and storing each incoming with an associated command number (C 8, L 65-67; buffers within Reference 400 in Figure 14; each buffer is comprised of two locations, such as buffer 1 -> L0, L1; buffer 2-> L2, L3); a command number comparator comparing the command order number of an outgoing command at each single input single output buffer and determining which command to output (C 22, L 21-67; C 23, L 1-15).

Regarding claims 2-3, Benkual discloses the command number generator including a cyclic counter for generating a command order number that is incremented by 1 when a command enters the buffer structure (C 10, L 53-55); and a cyclic counter for generating a comparison value that is incremented by 1 when a command leaves the buffer structure, wherein both counters have an identical capacity (C 10, L 51-53).

8. Claims 6-7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Meier et al (USPN: 6,481,251).

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Regarding claims 6 and 9, Meier discloses a pending posted write counter for storing the total number of pending posted write commands within the posted buffer structure (tail store queue number equals the number of entries in the queue); and a plurality of dependency counters [store queue number storage region within store queue, Ref. 68 in Fig. 3] each being associated with a command within a non-posted buffer structure[load/store buffer; C 7, L 39-45; C 12, L 19-20, L 42-44; C 15, L 56-67; C 16, L 1-3; the store entries in the load/store buffer are associated with corresponding entries in the store queue, since these store operations have not been retired yet], the value of the dependency counter of each command being set to the value of the pending posted write counter when the command enters the non posted buffer structure (C 10, L 4-15).

Regarding claim 7, Meier discloses a command number generator generating a command order number for each command entering the buffer structure (Figure 3, Reference 60), a plurality of single input single output buffers each having a capacity of buffering multiple commands and storing each incoming command with an associated command order number [store queue number](the queue [Reference 68 in Figure 3] is comprised of individual buffer storage regions, wherein each buffer region is comprised of two storage locations thereby storing multiple commands) and a command number comparator comparing the command order number of an outgoing command at each single input single output buffer in the posted buffer structure and determining which command to output (C 11, L 51-56).

Allowable Subject Matter

9. Claims 5, 8 and 10-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claim 4 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 703-308-9592. The examiner can normally be reached on M (10:00 - 6:30); Tues, Thr (10:00 - 4:00).

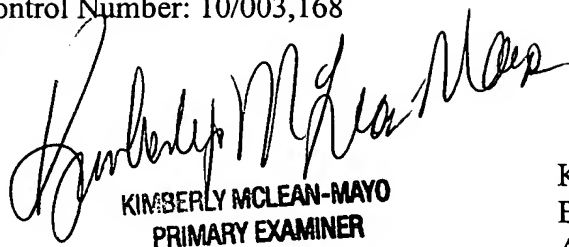
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 703-308-1756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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KIMBERLY MCLEAN-MAYO
PRIMARY EXAMINER

Kimberly N. McLean-Mayo
Examiner
Art Unit 2187

KNM

June 23, 2004